

OCT. 9. 2006 4:40PM

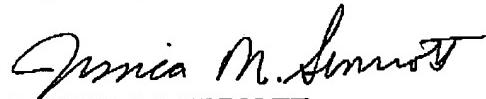
DU PONT LEGAL BMP BLDG-25 R1375

NO. 6331 P. 3

Rev. 10/93

If this response does not result in a withdrawal of the advisory action and entry of the September 13, 2006 Amendment, applicant respectfully requests that this response be treated as a petition to the Commissioner under 37. C.F.R. 1.181(a)(1). If this paper is treated as a petition, please charge the amount owed for the petition fee to Deposit Account 04-1928 (E.I. du Pont de Nemours and Company).

Respectfully submitted,



JESSICA M. SINNOTT  
ATTORNEY FOR APPLICANTS  
Registration No.: 34,015  
Telephone: (302) 992-4895  
Facsimile: (302) 892-7949

Dated: Oct 9, 2006

OCT. 9. 2006 4:40PM DU PONT LEGAL BMP BLDG-25 R1375



UNITED STATES PATENT AND TRADEMARK OFFICE

NO. 6331 P. 4  
*Yaphet F.*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,300	07/28/2003	Maurice A. Defeo	CH2890USNA	6455

23906 7590 08/10/2006

E I DU PONT DE NEMOURS AND COMPANY  
LEGAL PATENT RECORDS CENTER  
BARLEY MILL PLAZA, 25/1128  
4417 LANCASTER PIKE  
WILMINGTON, DE 19805

RECEIVED  
AUG 15 2006

EXAMINER  
HAILEY, PATRICIA L

ART UNIT  
1755

PAPER NUMBER

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DOCKETED  
CR

RECEIVED  
CENTRAL FAX CENTER

OCT 09 2006

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/629,300	DEFEO ET AL.
	Examiner Patricia L. Hailey	Art Unit 1755

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

RECEIVED  
CENTRAL FAX CENTER

OCT 09 2006

**Status**

- 1) Responsive to communication(s) filed on 26 May 2006.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-5, 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5, 8 and 9 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 21 February 2006.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

Application/Control Number: 10/629,300  
Art Unit: 1755

Page 2

Applicants' remarks and amendments, filed on May 26, 2006, have been carefully considered. Claims 6 and 7 have been canceled; new claims 8 and 9 have been added.

Claims 1-5, 8, and 9 are now pending in this application.

#### ***New Grounds of Rejection***

The following New Grounds of Rejection are being made in view of Applicants' amendments to claims 1 and 4.

#### ***Claim Rejections - 35 USC § 112***

- 1. Claims 1-5, 8, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.***

In claims 1 and 4, the word "trihydrite" lacks antecedent basis; it appears that this word should be "trihydrate". See, for example, lines 5 and 12 of claim 1.

In lines 13-14 of claim 1 and lines 12-14 of claim 4, the phrase "and the synthetic hectorite clay of the slurry for reducing the viscosity of the slurry compared to the viscosity of the same slurry which is free of a synthetic hectorite clay" is unclear. It appears that Applicants are attempting to recite claim language comparing the viscosity of a slurry containing a synthetic hectorite clay with that of a slurry that is free of said synthetic hectorite clay.

Application/Control Number: 10/629,300  
Art Unit: 1755

Page 3

***Maintained Rejections***

The following rejection of record is maintained; although new claims 8 and 9 have been added; the limitations of these claims are considered encompassed by Rohrbaugh et al.

***Claim Rejections - 35 USC § 103***

**2. *Claims 1-5, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrbaugh et al. (U. S. Patent Application Publication No. 2002/0028288).***

Rohrbaugh et al. disclose materials for coating and coating compositions comprising a nanoparticle system. The nanoparticle system can comprise inorganic nanoparticles generally existing as oxides; examples include hectorite, as well as various forms of alumina (such as gibbsite, known in the art as aluminum trihydrate), and titanium oxide. See paragraphs [0043]-[0049], paragraphs [0054]-[0061] of Rohrbaugh et al.

Rohrbaugh et al. also disclose that the coating compositions comprising the nanoparticle system may be in any form, such as liquids (aqueous or non-aqueous), etc. See paragraph [0073] of Rohrbaugh et al.

In paragraphs [0074]-[0080] of Rohrbaugh et al., various embodiments of the coating compositions are disclosed, comprising the aforementioned nanoparticles, as well as components such as adjuncts; Rohrbaugh et al. also disclose that the concentration of nanoparticles in the materials or compositions can range "all the way

Application/Control Number: 10/629,300  
Art Unit: 1755

Page 4

up to 100%" (paragraph [0080]), and further disclose that concentrated compositions "comprise a higher level of nanoparticle concentration, typically from about 0.1% to about 50%, ...of the concentrated coating composition" (paragraph [0276]). This disclosure would provide one skilled in the art with ample motivation to employ the nanoparticles in percentage ranges comparable to those instantly claimed (claims 1, 4, and 5).

In paragraphs [0084]-[0087], Rohrbaugh et al. disclose additional embodiments of the compositions comprising Boehmite alumina (known in the art as aluminum trihydrate), and Laponite or Lucentite (hectorite clays).

The compositions can be prepared by dispersing the dry nanoparticle powder with a surfactant and a dispersant; examples of the dispersant include poly (acrylic/allyl alcohol), poly (acrylic/maleic), etc. See paragraph [0088] of Rohrbaugh et al.; this disclosure is considered to read upon the limitation "dispersant comprising an acrylic dispersing resin".

The coating compositions may also contain carriers such as water, as well as adjunct materials such as germicides and fungicides (considered to read upon the limitation "biocide"), as well as pH control agents. See paragraphs [0098]-[0099] of Rohrbaugh et al., as well as paragraph [0201], which further disclose exemplary biocidal compounds.

Although Rohrbaugh et al. disclose that nanoparticles are "defined as particles with diameters of about 400 nm or less" (paragraph [0045]), this reference is considered to read upon Applicants' "average particle size of at least 0.5 micron" (emphasis

Application/Control Number: 10/629,300  
Art Unit: 1755

Page 5

added), as one having ordinary skill in the art would readily deduce that such a limitation would include some particles (but, obviously, not all) having particle sizes less than 0.5 micron (500 nm).

Further, although Rohrbaugh et al. do not explicitly disclose or recite the phrase "aqueous slurry" in describing the disclosed compositions, and also does not disclose the viscosity of said slurry (as recited in new claims 8 and 9), it would have been obvious to one skilled in the art at the time the invention was made that an "aqueous slurry" would be encompassed by the teachings of Rohrbaugh et al., in view of this reference's disclosure of percentage ranges for the nanoparticles as discussed hereinabove, as well as in view of the reference's teachings of the presence of components respectively recited in the instant claims.

With respect to claim 2, it would have been obvious to one skilled in the art at the time the invention was made to reasonably expect that the compositions disclosed in Rohrbaugh et al. would be "FDA compliant for indirect food contact", since this reference teaches the present of components that are respectively recited in Applicants' claims.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Application/Control Number: 10/629,300  
Art Unit: 1755

Page 6

*Response to Arguments*

In response to Applicants' arguments that the cited reference does not teach the claimed invention, in view of Applicants' amendments, the Examiner respectfully states that the prior art remains to read upon the instant claims, in terms of disclosing nanoparticles of gibbsite (also known as alumina trihydrate), a dispersant, titanium dioxide, biocides, additional adjunct materials, etc. Limitations such as "for blending with a titanium dioxide pigment slurry for making a high solids slurry comprising titanium dioxide capable of use in papermaking applications" are statements of intended use; a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicants' arguments regarding the Examiner's inference that boehmite alumina is known as alumina trihydrate is persuasive in view of the technological documents provided by Applicants. However, because Rohrbaugh et al. also disclose that alumina is commercially available as "Gibbsite" (paragraph [0049]), the reference is considered to continue to read upon "alumina trihydrate", in view of said technological documents.

Applicants' arguments regarding the unexpected results obtained from incorporating synthetic hectorite clay into an ATH (alumina trihydrate) slurry have been considered, but are not persuasive, as these arguments are in regard to features not recited in the instant claims.

Application/Control Number: 10/629,300  
Art Unit: 1755

Page 7

For these reasons, Applicants' arguments are not persuasive, and the rejection of record is maintained.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays.

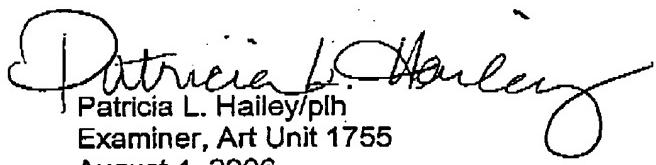
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

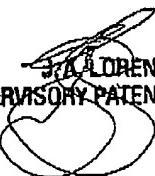
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Application/Control Number: 10/629,300  
Art Unit: 1755

Page 8

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Patricia L. Hailey/plh  
Examiner, Art Unit 1755  
August 4, 2006

  
J.A. LORENZO  
SUPERVISORY PATENT EXAMINER

<b>Notice of References Cited</b>		Application/Control No.	Applicant(s)/Patent Under Reexamination	
		10/629,300	DEFEO ET AL.	
Examiner Patricia L. Hailey		Art Unit 1755	Page 1 of 1	

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2004/0151886	08-2004	Bobsein et al.	428/211.1
*	B	US-6,416,620	07-2002	Narancic et al.	162/5
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

OCT. 9. 2006 4:42PM DU PONT LEGAL BMP BLDG-25 R1375 NO. 6331 P. 14

FEB. 21. 2006 4:34PM DU PONT LEGAL BMP BLDG-25 R1375 CENTRAL FAACENTER NO. 4781 P. 12

FEB 21 2006

PTO/SB/088 (07-05)

Approved for use through 08/30/2006. OMB 0451-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for Form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 1

**Complete If Known**

Application Number	10/629300
Filing Date	July 29, 2003
First Named Inventor	MAUREEN A. DEFEO
Group Art Unit	1788
Examiner Name	Patricia L. Hailey
Attorney Docket Number	CH2890USNA

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>1</sup>
LH		Definition of alumina trihydrate from Sore et al, "Hawley's Condensed Chemical Dictionary". Eighth Edition, page 43	<input type="checkbox"/>
LH		2003 Product Data Sheet for Almatis Hydral series aluminum trihydroxide	<input type="checkbox"/>
LH		General Boehmite Information from the Fabre Minerals website: <a href="http://www.fabreminerals.com">www.fabreminerals.com</a>	<input type="checkbox"/>
			<input type="checkbox"/>

Examiner Signature	Patricia Hailey/ (07/25/2006)	Date Considered
--------------------	-------------------------------	-----------------

\*EXAMINER initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 USC 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PAGE 12/21 \* RCVD AT 2/21/2006 4:28:39 PM [Eastern Standard Time] \* SVR:USPTO-EFXRF-6/34 \* DNIS:2738300 \* CSID:302 892 7949 \* DURATION (mm:ss):07:20

PAGE 14/14 \* RCVD AT 10/9/2006 4:34:42 PM [Eastern Daylight Time] \* SVR:USPTO-EFXRF-3/11 \* DNIS:2738300 \* CSID:302 892 7949 \* DURATION (mm:ss):03:32

**BEST AVAILABLE COPY**